

WHAT IS CLAIMED:

1 1. A process for the polymerization of alkylene
2 oxides, which process comprises reacting initiator
3 with alkylene oxide in the presence of a DMC catalyst
4 obtained by the process comprising:

5 (a) combining an aqueous solution of a metal
6 salt with an aqueous solution of a metal
7 cyanide salt and reacting these solutions; and,

8 (b) recovering the DMC catalyst from the
9 reaction mixture,

10 in which process the DMC catalyst is prepared in
11 the presence of from 0.03 mole to 0.4 mole of
12 alkaline metal oxide, based on amount of metal
13 salt,

14 to produce a polyol comprising less than 60 ppm
15 ultra-high molecular weight compounds.

1 2. The process of claim 1, which process is
2 carried out continuously.

1 3. The process of claim 1, in which process the
2 DMC catalyst is prepared in the presence of from 0.03
3 mole to 0.3 mole of alkaline metal compound in step (a).

1 4. The process of claim 1, in which process the
2 DMC catalyst is prepared by a process in which the metal
3 of the metal salt in step(a) is selected from the group
4 consisting of zinc, iron, cobalt and nickel and the metal
5 of the metal cyanide salt in step (a) is selected from
6 the group consisting of iron, cobalt, chromium, iridium
7 and nickel.

1 5. The process of claim 1, in which the polyol
2 comprises less than 35 ppm ultra-high molecular weight
3 compounds.